PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BC hydro

BRITISH COLUMBIA

Cavity Nester Habitat Selection Project, Phase 3 Report: Map Preparation and Transect Layout

L. J. Murray
November 1992

PWFWCP Report No. 20

105-01004/

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

Peace/Williston Fish and Wildlife Compensation Program, 1011 Fourth Ave. 3rd Floor, Prince George B.C. V2L 3H9

Website: *www.bchydro.bc.ca/environment/initiatives/pwcp/*

This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

Citation: L. J. Murray. November 1992. Cavity Nester Habitat Selection Project, Phase 3 report: Map preparation and transect layout. Peace/Williston Fish and Wildlife Compensation Program, Report No. 20. 8pp plus appendices.

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MAP PREPARATION

Two sets of maps were prepared by the contractor (Linda J. Murray) based on maps obtained from Fletcher Challenge Canada and information gathered in the field (Appendix 1).

The first set of maps is a comprehensive set, incorporating all available information on the three cutblocks and on the three old growth control areas. Included on these maps is the location of treatments, transects, creeks, green tree retention islands, ecosystem association boundaries, and roads. Also included on these maps are topographic contours, surrounding forest types and the forest types within the old growth control areas.

The second set of maps show transect information in detail. Detailed transect information includes transect location, compass bearing, length of transects, and key distance marks. As well these maps give the size in hectares of all treatments including the old growth control areas. Basic information included on these maps is the location of treatments, creeks, green tree retention islands, and roads. These maps are suitable for use in the field.

The location of creeks on these maps may vary slightly from the information provided by Fletcher Challenge. Some information on creeks was gathered in the field while laying transects and assessing snags.

Appendix 2 contains P.H.S.P. (Pre-harvest Silviculture Prescription) information, and the stand and stock tables from each of the three blocks.

TRANSECT LAYOUT PLANNING

Transects were laid out between late August and the middle of October, 1992 by the contractor (Linda J. Murray) and one of 2 assistants. All transects were planned and marked on maps prior to laying them in the field. A number of factors were taken into consideration while planning the layout of the transects.

An attempt was made to locate and lay approximately 1500 meters of transect for each 25 hectares of treatment area. Because the transect "width" was 75 meters, each transect had to be about 150 meters apart, and cover the entire treatment. In order to facilitate surveys, transects were run parallel with the slope rather than up and down. Transects running parallel to the treatment boundaries were kept 75 meters from that boundary to simplify data interpretation. As much as possible transects were kept off roads since some wildlife may actively avoid or seek the roads.

TRANSECT LAYOUT METHODOLOGY

A tree at the start and finish of each transect was permanently marked with orange paint and a rectangular piece of aluminum nailed into the tree. The transect number (A through Y), the transect length (if it was the end of the transect) and the compass bearing was recorded on each piece of aluminum. Pink flagging was tied approximately every 10 meters along each

transect. At each 50 meter mark, both pink and blue flagging tape was tied. The distance was recorded on the blue flagging tape with permanent felt marker. At each 100 meter mark a 2 meter metal rod was placed into the ground in hopes that they will be visible above the snow for winter track surveys. The rods were marked with pink and blue flagging tape, and the distance was recorded on the blue flagging tape with permanent felt marker. Where possible something taller and relatively permanent (ie snag) was used instead of the metal rod. At every 100 or 200 meter mark on blocks 5546 and 5547 orange flagging tape was tied 25, 50 and 75 meters perpendicular to the transect. The 75 meter mark was also marked with pink flagging. The marking of perpendicular distances was done to aid with distance estimations during breeding bird surveys. This was not done on block 5516 because of the strong possibility that site preparation would destroy it.

The transects laid in the timber (Old Growth 1, 2 and 3) were done slightly differently. A tree at the beginning and end of each transect was painted with two horizontal stripes of orange paint and marked with a rectangular piece of aluminum nailed into the tree. The aluminum "tag" contained the same information as the tags on other transects. Pink flagging tape was tied along the transects as often as necessary to make the transects easy to follow. The flagging was tied as high as possible so that it would be visible during the winter track surveys. At each 50 and 100 meter mark, pink and blue flagging tape was tied around the trunk of a tree. As well, a small

aluminum tag (the same as the ones used to number the snags in Phase 1) was nailed to the tree. The distance was recorded on both the tag and the blue flagging tape.

TRANSECT INFORMATION

C.P. 373, Blk 5547

Block 5547 is 111.5 hectares in size and contains 5594 meters of transect. These transects are numbered "A" through "H". The "Islands Only" treatment area is 30.7 hectares in size and contains 1850 meters of transect. The "Snags and Islands" treatment area contains 1154 meters of transect and is 23.5 hectares in size. The "Snags Only" treatment area is 32.6 hectares in size and contains 1400 meters of transect, and 1190 meters of transect was laid in the 24.7 hectare control area.

Because transects "E", "F" and "G" begin along the mainline (Donna Creek Main), a tree could not be used as a permanent marker. Instead, the 2 meter metal rods were used in conjunction with flagging tape. A tree at the end of each of these transects is permanently marked with paint and aluminum.

C.P. 373, Blk 5546

Block 5546 is 90.6 hectares in size and contains 4833 meters of transect. These transects are numbered "I" through "Q". The "Islands Only" treatment area is 26.5 hectares in size and contains 1430 meters of transect. The "Snags and Islands"

treatment area contains 980 meters of transect and is 20.4 hectares in size. The "Snags Only" treatment area is 20.0 hectares in size and contains 1118 meters of transect, and 1305 meters of transect was laid in the 23.7 hectare control area. Because transects "N", "O", "P" and "Q" begin along the mainline (Donna Creek Main), a tree could not be used as a permanent marker. Instead the 2 meter metal rods were used in conjunction with flagging tape. A tree at the end of each of these transects is permanently marked except for transect "P" which begins and ends with a metal rod.

C.P. 371. Blk 5516

Block 5516 is 119.8 hectares in size and contains 6400 meters of transect. The transects are numbered "R" through "W". The "Islands Only" treatment area is 27.7 hectares in size and contains 1730 meters of transect. The "Snags and Islands" treatment area contains 1360 meters of transect and is 25.5 hectares in size. The "Snags Only" treatment area is 31.8 hectares in size and contains 1750 meters of transect, and 1560 meters of transect was laid in the 34.8 hectare control area. There were some difficulties encountered while laying these transects. Post harvest maps showing accurate road layout, block boundaries and green tree retention islands were not yet available. In addition, two of the treatment areas and half the green tree retention islands had to be altered during logging. The first 200 meters of transect "R" should be re-laid, dropping it 75 meters below the spur road. The first 200 meters currently

runs along the spur road. The wood on the upper portion of the block had been skidded down to the roads, but had not yet been removed at the time the transects were laid out. As a result, where transects crossed roads there are occasional detours or lapses in flagging as the field personnel negotiated piles of logs. Removal of the logs would have destroyed any flagging tape had it been used in these areas. Transect "W" was started twice, therefore there are two trees painted orange. The upper tree is the actual starting point. This block also contains a fair amount of slash in places making walking difficult.

Old Growth 1

Old Growth 1 is 26.5 hectares of timber situated west of block 5547, between that block and C.P. 381, Blk 548. A total of 1520 meters of transect were laid along transects "OG1 A" and "OG1 B". Transects "OG1 A" is interrupted for 30 to 40 meters on either side of the mainline (Donna Creek Main) which it crosses twice. Trees with orange paint mark where this transect crossed the Mainline.

Old Growth 2

Old Growth 2 is 23.3 hectares of timber situated between blocks 5546 and 5547. A total of 1450 meters of transect were laid along transects "OG2 A" and "OG2 B". Access to the beginning of these transects is from block 5546. Both transects begin and end 30 to 40 meters into the timber from the edge of the block, but are clearly marked at the edge of the block.

Old Growth 3

Old Growth 3 is 27.0 hectares of timber situated beneath block 5516 both between the mainline (Donna Creek Main) and block 5516 and below the mainline. A total of 1500 meters of transect were laid along transects "OG3 X" and "OG3 Y". Access to both transects is from the mainline. Both transects begin 30 to 40 meters into the timber from the mainline, and transect "OG3 Y" ends approximately 50 meters from the mainline. Once finished transect "OG3 X", the surveyor will have to back-track 100 meters to the previous 100 meter mark (tag #914) where they will find a route flagged down to the "corner" (tag #927).

COMMENTS

Much of the two blocks logged in October 1991 (blocks 5546 and 5547) underwent site preparation during the summer and fall of 1992. Almost all of the site preparation consisted of "trenching". Trenching produces parallel furrows or trenches with berms of material between. The wettest portion of block 5547 was "mounded". This technique creates mounded sites for planting which improves soil temperature and keeps the seedlings above the water table. Block 5516, logged August/September 1992 may require some form of site preparation in places in 1993.

Intermittent creeks on block 5547 (the only block walked prior to site preparation) became indiscernible after trenching. A number of the cat trails had small volumes of water trickling

down them all summer.

Brush piled up along the roads in blocks 5546 and 5547 seemed to attract small birds (juncos and Lincoln sparrows) to the road edges in the summer. These piles were burned in the middle of October and if thoroughly burned, won't be a factor during bird surveys or track counts.

A couple of the green tree retention islands situated towards the middle of block 5547 already incurred a great deal of blowdown between the time the block was logged and the summer of 1992.

APPENDIX 1

C.P. 373 BLK. 5547

Area 111.5 ha

LEGEND

Block Boundary:

Roads:

Transects: A — A

Treatment Boundary:

Green Tree Retention Islands:

Creeks:

Contours: 1100

Timber Type Boundaries:

Ecological Association

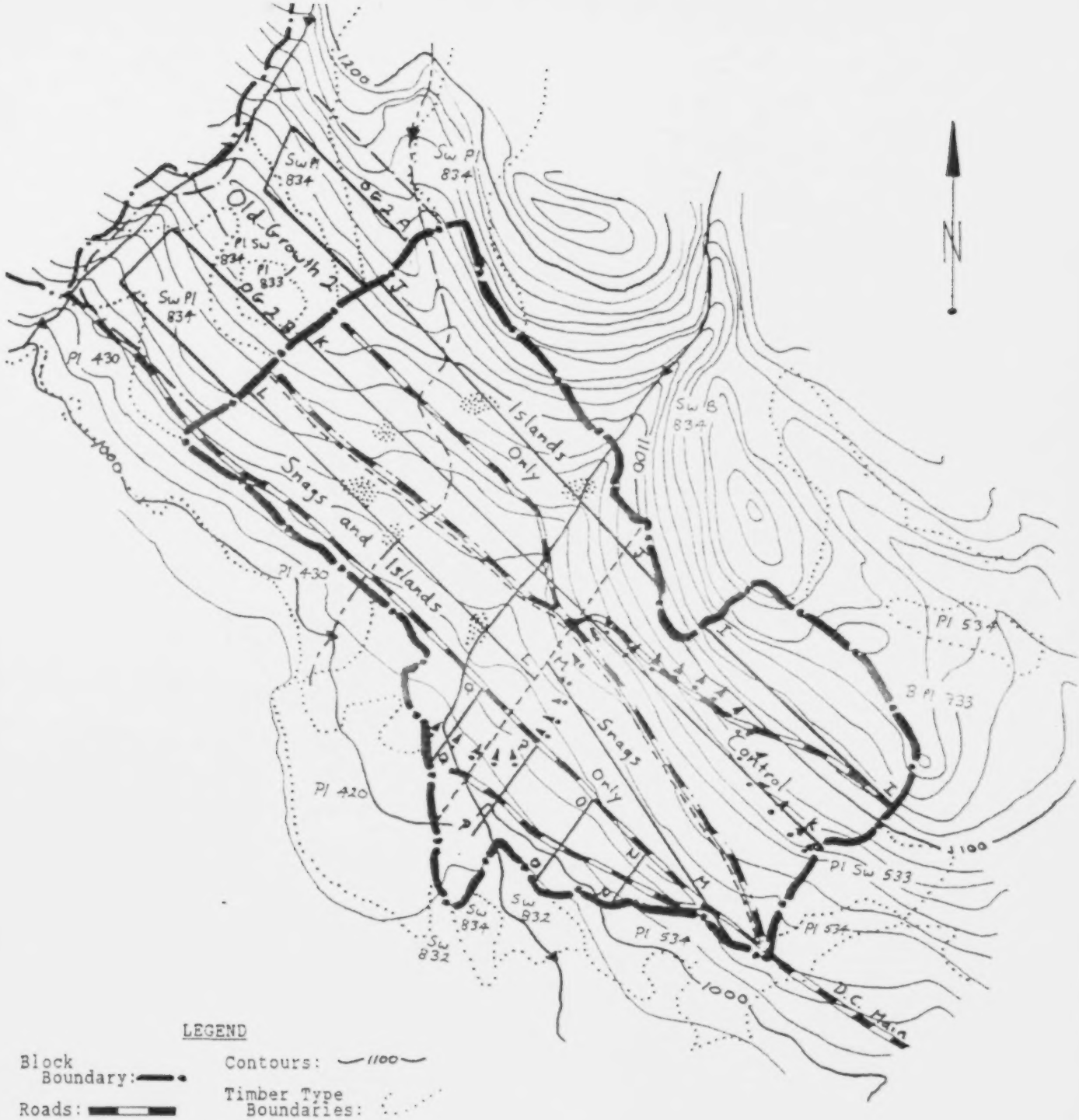
01:

03:

04:

05:

Scale 1:10.000



LEGEND

Block Boundary:

Roads:

Transects: A A

Treatment Boundary:

Green Tree Retention Islands:

Creeks:

Intermittent Creeks:

Contours: 1100

Timber Type Boundaries:

Ecological Association

01:

03:

04:

05:

Scale: 1:10,000

C.P. 373 BLK. 5546

Area 90.6 ha

LEGEND

Block Boundary:

Roads:

Transects: A A

Treatment Boundary:

Green Tree Retention Islands:

Creeks:

Intermittent Creeks:

Contours: 1100

Timber Type Boundaries:

Ecological Association

Scale: 1:10,000

C.P. 371 BLK. 5516

Area 119.8 ha

APPENDIX 2

VINCE OF BRITISH COLUMBIA
FOREST SERVICE

MINISTRY OF FORE[illegible]

PRE-HARVEST SILVICULTURE PRESCRIPTION
FINAL PRESCRIPTIO
(USE TO DEVELOP FINAL CB PRESCRIPTION FROM INITIAL TREATMENT UNIT PRESCRIPTIONS ON FS 711A)

TENURE DESCRIPTION	REGION PG	FD 6	LOCATION DONNA CREEK M/L			TSA MACK	TSB	AREA (HA) 112.7
	LICENCE NO. FLA15384	LICENSEE F. C. C. L.		CP 371	CB 516	BCGS/OPENING NO.		PLOT NO.
	PHOTO NO.	ASSESSED BY G. EDNEY		DD 6	MM 4	YY 87	ECOLOGICAL CLASSIFICATION ESSFm3 01 03	

STATEMENT: PRODUCE A CROP OF Sx and Pl LOGS ON AN 80 YEAR ROTATION

CUTTING PRIORITY:	HARVESTING SEASON/YR TO START W 89/90
PRIORITY CUTTING AGE	HARVESTING SEASON/YR TO FINISH W 89/90

CONSTRAINTS:

None

LOGGING METHODS: 50% FB/GS 50% HF/LS	MAXIMUM SITE DEGRADATION % (incl. rds, skid trails, landings) 4.1%

CONSTRAINTS:
Winter logging only.

RECOMMENDED CUTTING SPECIFICATIONS:
15 cm DBH, 10 cm top

OPENING SIZE AND CONFIGURATION RATIONALE: One 112.7 ha opening. Boundaries follows immature types and natural terrain features.

ACCESS ROADS TO BLOCK: Access via Donna Creek Mainline. Summer access by 4WD or ATV only.

ROAD LAYOUT IN BLOCK: 2.4 HA Maximum site disturbance
As per logging plan map.

SKID TRAILS IN BLOCK: Skid trails required.
0.5 maximum site disturbance

LANDINGS IN BLOCK: 11 landings required.
1.6 ha maximum site disturbance

CULVERTS AND BRIDGES: 3 culverts required.

RANGE/RECREATION/WATERSHED & FISHERIES CONSTRAINTS:

None.

PEST MANAGEMENT

METHOD/TYPE: Debris will be burned during broadcast burn or will be burned and spread if windrowed first	SEASON/YEAR F/90

PEST TREATMENT:
None

PROTECTION/SITE PREP CONSTRAINTS:
None

PLANTING 374 5

PROPOSED USE: NONE

MEASURES REQUIRED:

PROPOSED USE:

N/A

SITE TREATMENT(S)/TIMING:

OTHER IMPROVEMENTS:

STOCKING STANDARDS

TREATMT UNIT ID	AREA (HA)	TARGET STOCKING STANDARD (WELL SP./HA)	STOCK METHOD	LEADER GROWTH (CM)	SPECIES PREFERRED	SPECIES ACCEPTABLE	MINIMUM STOCKING STANDARDS (WELL SP./HA)	REGEN DELAY (YR)	FREE-GROWING EARLY YEARS	FREE-GROWING LATE YEARS
A	107.9	1200	PLANT	15-40	Sx/Pl	Bl	700	4	12	20

SILVICULTURE PLAN

SITE PREPARATION / REFORESTATION

TREATMT UNITS	SEASON YEAR	METHOD	TARGET DOY	YEAR PLANT	SELECTED SPECIES	SELECTED STOCK	SELECTED STEMS/HA
A	F90	MSP-WINDROW	91	92	Pl	1+0 PSB 313	1100
		ALT: BROADCAST BURN			Sx	2+0 PSB 313	1100

GENERAL COMMENTS:

METHOD/TIMING: Brushing and weeding expected to be minor but will be carried out to meet free-to-grow standards by manual means if cost effective or alternative chemical means.

CONSTRAINTS: Free-growing trees will be of an acceptable species, at least 1.3 metres tall and 125% taller than the brush species within a one metre radius of the trunk measured at the base of the last leader. Target leader growth 15-40 cm per

GENERAL OBSERVATIONS:

☐ MAP/PHOTO ATTACHED

MAP SCALE:

PROCESSING SUMMARY ACTION	DATE INITIAL	D	M	Y
1. ENTER HISTORY RECORDS				
2.				
3.				
4.				

SIGNATURE OF PERSON COMPLETING THIS PRESCRIPTION

AFFIX SEAL HERE

SIGNATURE OF PRESCRIPTION APPROVAL (LICENSEE/FOREST SERVICE R.P.

SIGNATURE ~~WITNESSING~~ (DENOTES ACCEPTANCE (DATE) 1989 11 10

FDOO1A

Province of British Columbia

Ministry of Forests and [illegible]

Forest Service

PRE-HARVEST SILVI[illegible]TURE PRESCRIPTION

FINAL PR[illegible]RIPTION

Use to develop final cutblock prescription from initial treatment unit prescriptions on Form 711A

REGION	F.D.	LOCATION	TSA	TSB	AREA (ha)
G	6	Donna Creek M/L	Mack		110.9

LICENCE NO	LICENSEE	CP	BLOCK	BCGS / OPENING NO / SETTING NO	PLOT NO
FLA15384	F.C.C. Ltd.	373	5547		01/02

PHOTO NO	ASSESSED BY (Print)	DATE D M Y	ECOLOGICAL CLASSIFICATION
	F. Gunderson/ R. Penry	11 11 88	ESSFn3 01.04.05.07

MGT OBJ

STATEMENT

To manage for Sx and PL sawlogs on an 80 year rotation

HARVESTING

CUTTING PRIORITY

Priority Harvesting age

SEASON / YR TO START

Winter 89

CONSTRAINTS

None

SEASON / YR TO FINISH

Winter 89-9

LOGGING METHOD

75% FB/GS & 25% HF/LS to roadside

AREA TO BE HARVESTED, INCLUDING ROADS, SKID TRAILS, LANDINGS

4.5 total (4.54 ha)

CONSTRAINTS

Large stems will require handfalling and skid to landings.

RECOMMENDED CUTTING SPECIFICATIONS

15 cm DBH and 10 cm tops.

OPENING SIZE AND CONFIGURATION RATIONALE

Boundaries dictated by leave areas and creeks.

ACCESS ROADS TO BLOCK

Access via Donna Creek M/L. May be difficult in wet periods.

ROAD LAYOUT IN BLOCK

Roads laid out and on map. Construction partially completed on Donna Creek M/L. .75 ha - Area M/L, 1.94 ha - temporary roads. (2.43/-)

SKID TRAILS IN BLOCK

Return trails will be necessary. Maximum 1.0 ha disturbance.

LANDINGS IN BLOCK

Two right of way landings on Donna Creek M/L at 0.2 ha each, Two production landings at 0.4 ha each. Total disturbance of 1.2 ha. Landing Cat III.

CULVERTS AND BRIDGES

5 - 450 mmx 9m CMP + 1 - 600 mmx 9m CMP required as shown on logging plan map.

RANGE/RECREATION/WATERSHED AND FISHERIES CONSTRAINTS

None.

PEST MANAGEMENT

METHOD/TYPE

Pile and burn roadside debris if site is mechanically treated.

SEASON / YEAR

F/90.

PEST TREATMENT

None

PROTECTION/SITE SPECIFIC CONSTRAINTS

TLA15384

CP373 CB 5547

None
TREATMENTS / TIMING

ER IMPROVEMENTS

STOCKING STANDARDS

Treatment Unit / Silviculture Option	Area (Ha)	TARGETS Stocking Standard (tree species / Ha)	Stocking Method	Leader Growth (cm)	Species Preferred	Species Acceptable	STANDARDS Minimum Stocking (tree species / Ha)	Regen Delay (yr)	Free Growing Early Years	Free Growing Late Years
B	105	1000-1200	Plant	20-50	Sx/PL	Ba	700	3	6	12

Treatment Units	Season / Year	SITE PREPARATION Method	REFORESTATION Target Tree Size	Target Tree Plant	Species Species	Stocked Stock Type	Spacing Spacing m
B	F/90	Broadcast burn if sufficient fuels	90	491	Sx/PL	F+oPSB	1100
Alternative							
	F/90	If insufficient fuels - Mechanically					

GENERAL COMMENTS: Site prepare block

METHODS/TIMING — BRUSHING AND WEEDING

Brushing and weeding needs expected to be minor, but will be carriedout to meet free-to-grow standards by chemical or manual means.

CONSTRAINTS

Streaks within block will require pesticide-free zones, these areas will be treated manually.

GENERAL COMMENTS

Free-growing trees will be of an acceptable species, at least 1.3 meters tall, and 150% taller than the brush species wit hin a one meter radius of the trunk measured at the base of the last leader.

AL OBSERVATIONS

PROCESSING SUMMARY

Action	Initial	Date Completed D	M	Y
1 Enter History Record				
2				
3				
4				

☐ MAP/PHOTO ATTACHED

MAP SCALE

AFFIX SEAL HERE

Signature of person completing this prescription

Signature of prescription approver (Licensee / Forest Service R.P.F.)

FLETCHER CHALLENGE

ROJECT NO. 84/2

EPORT DATE 30 NOVEMBER 1988

PER HECTARE STAND AND STOCK TABLE

CUT BLOCK #5547

109.4 HECTARES

SPECIES	DBH CLASS	AVE HT.	NUMBER OF STEMS LIVE TREES RG #1	RG #2	RG #3	DEAD POTENTIAL	TOTAL	DEAD USELESS	GRAND TOTAL	SPECIAL REPORT	VOLUME - M3 AVE WHOLE STEM	MERCHANTABLE GROSS	MERCHANTABLE NET
ALSAM	10	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	173.3	0.00	0.00	0.00
	15	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	136.5	0.00	0.00	0.00
	20	17.3	23.2	14.4	0.0	0.0	37.6	10.0	47.6	0.0	0.23	7.64	5.91
	25	20.7	28.0	6.0	0.2	1.3	35.5	13.5	49.0	0.0	0.42	13.75	10.34
	30	23.1	9.9	27.7	0.0	0.1	37.7	1.2	38.9	0.0	0.65	23.98	16.05
	35	25.4	6.2	18.3	0.0	0.8	25.3	6.3	31.6	0.0	0.95	23.04	15.76
	40	27.7	7.0	5.6	0.0	0.0	12.6	4.0	16.6	0.0	1.34	16.33	11.43
	45	29.9	0.5	2.1	0.0	0.0	2.6	2.3	4.9	0.0	1.80	4.70	3.03
	50	31.0	2.6	1.4	0.0	0.4	4.4	0.0	4.4	0.0	2.36	10.15	6.72
	55	31.9	0.0	0.9	0.0	0.0	0.9	2.0	2.9	0.0	2.67	2.34	1.44
	60	34.8	0.0	0.7	0.0	0.0	0.7	0.0	0.7	0.0	3.59	2.53	1.54
	75	39.0	0.0	0.4	0.0	0.0	0.4	0.0	0.4	0.0	6.50	2.76	1.64
	TOTAL		77.4	77.6	0.2	2.7	157.8	39.3	197.1	136.5		106.33	73.86
		%	39.3	39.4	0.1	1.4		19.9	100.0				
SPRUCE	10	18.9	0.0	11.8	0.0	0.0	11.8	18.9	30.7	0.0	0.08	0.00	0.00
	15	20.1	9.5	61.8	0.0	0.0	71.3	4.5	75.8	0.0	0.15	2.52	7.17
	20	21.7	6.9	23.0	0.0	0.0	30.0	6.0	36.0	0.0	0.27	7.03	6.64
	25	23.8	9.0	10.8	0.0	1.3	21.1	2.9	23.9	0.0	0.47	9.18	8.37
	30	24.9	14.1	22.4	0.0	2.4	38.9	1.1	40.0	0.0	0.69	24.96	22.09
	35	26.5	10.9	11.6	0.9	0.0	23.4	2.8	26.2	0.0	0.99	22.20	19.78
	40	28.0	15.2	20.3	0.0	0.6	36.1	1.2	37.3	0.0	1.34	46.32	40.89
	45	29.8	5.7	16.3	0.0	0.0	22.0	0.0	22.0	0.0	1.77	37.57	32.22
	50	30.7	4.5	4.3	0.0	0.8	9.7	0.7	10.3	0.0	2.24	20.73	17.80
	55	32.8	3.0	1.8	0.0	0.0	4.8	0.8	5.5	0.0	2.89	13.33	11.87
	60	34.2	0.6	3.8	0.0	0.0	4.4	0.7	5.1	0.0	3.44	14.70	12.19
	65	35.8	0.8	1.4	0.0	0.0	2.2	0.0	2.2	0.0	4.24	8.98	7.68
	TOTAL		80.3	177.5	0.9	5.1	263.8	20.6	284.4	0.0		212.52	186.69
		%	28.2	62.4	0.3	1.8		7.2	100.0				
LODGEPOLE P.	10	11.7	0.0	17.9	0.0	0.2	18.1	0.8	18.9	0.0	0.05	0.00	0.00
	15	15.1	0.3	17.6	0.0	0.0	18.0	3.7	21.7	0.0	0.11	1.33	1.19
	20	19.8	5.3	5.8	0.0	0.1	11.1	3.5	14.6	0.0	0.39	3.00	2.70
	25	21.6	3.5	15.1	0.0	0.3	18.9	0.0	18.9	0.0	0.47	8.20	7.18
	30	24.5	6.9	24.0	0.0	1.0	32.0	7.6	39.5	0.0	0.76	23.00	19.51
	35	26.2	5.1	23.1	0.0	1.8	29.0	2.9	31.9	0.0	1.07	29.70	24.33
	40	27.0	3.3	10.2	0.0	0.6	14.0	0.7	14.7	0.0	1.44	17.12	15.29
	45	28.8	0.0	5.1	0.0	0.0	5.1	0.0	5.1	0.0	1.87	9.32	7.69
	50	27.8	0.9	1.9	0.0	0.0	2.8	0.0	2.8	0.0	2.15	5.77	4.36
	55	27.5	0.0	0.3	0.0	0.0	0.3	0.0	0.3	0.0	2.43	0.73	0.49
	TOTAL		25.2	122.3	0.0	3.8	131.2	18.4	149.6	0.0		108.13	82.14
		%	16.8	81.3	0.0	2.5		12.3	100.0				

Province of British Columbia — Ministry of Forests — Forest Service

PRE-HARVEST SILV[illegible]URE PRESCRIPTION

FINAL P[illegible]IPTION

Use to develop final cutblock prescription from initial treatment unit prescriptions on Form 21IA

FOREST DISTRICT	F.D.	LOCATION	T.S.A.	TSB	AREA (ha)
G	6	Donna Creek M/L	Mack		82.8

LICENCE NO.	LICENSEE	CP	BLOCK	BCGS / OPENING NO / SETTING NO	PLOT NO
FLA15384	F.C.C. Ltd.	373	5546		01102

PHOTO NO	ASSESSED BY (Print)	DATE	ECOLOGICAL CLASSIFICATION
	F. Gundersen/ R Penty	11,88	ESSFn3 01.05

MGT OBJ

STATEMENT

To manage for Sx and PL sawlogs on an 80 year rotation

HARVESTING

CUTTING PRIORITY — SEASON / YR TO START

Priority harvesting age — Winter 198

CONSTRAINTS — SEASON / YR TO FINISH

None — Winter 198

LOGGING METHOD — MAX SITE DEGRADN % (ROADS, SKID TRAILS, LANDINGS)

Feller bunch, Grapple skid to roadside Total — 5.7+% — 4.75 ha

CONSTRAINTS

Minimal amount of handfall may be required on steep pitches

RECOMMENDED CUTTING SPECIFICATIONS

15 cm DOB 10 cm Top

OPENING SIZE AND CONFIGURATION RATIONALE

Boundaries dictated by non-merchantable types and leave areas.

ACCESS ROADS TO BLOCK

Access via Donna Creek M/L. May be difficult during wet periods.

ROAD LAYOUT IN BLOCK

Roads laid out and on map. Construction complete on Donna Creek M/L 1.3 ha in area M/L 1.5 ha in Truck trails. (3.4%)

SKID TRAILS IN BLOCK

Return trails necessary. Maximum disturbance .75 ha or 0.9% of total area.

LANDINGS IN BLOCK

Four R/W landings built on Donna Creek M/L at 0.2 ha each. One production landing required at 0.4 ha. Landings categoryIII. Total disturbance 1.2 h

CULVERTS AND BRIDGES

3 - 800 mm Cmp and 4 - 450 mm Cmp, as shown on logging plan map.

RANGE/RECREATION/WATERSHED AND FISHERIES CONSTRAINTS

None.

PEST MANAGEMENT

METHOD/TYPE

Roadside and landing debris will be piled and burned.

SEASON / YEAR

F/90.

PEST TREATMENT

— None

PROTECTION / SITE PREP CONSTRAINTS

Gullied areas will limit machine effectiveness.

FL 21IB (SA 92/11)

FL A15384

CP 373 CB 554

None.

OTHER IMPROVEMENTS

STOCKING STANDARDS

Treatment Unit Identification	Area (ha)	TARGETS Stocking Standard (well spaced / ha)	Stocking Method	Leader Growth (cm)	Species Preferred	Species Acceptable	STANDARDS Minimum Stocking (well spaced / ha)	Regen Delay (yr.)	Free Growing Early Years	Free Growing Late Years
A	74	1000-1200	Plant	20 -30	Sw/Pl	Ba	700	3	6	12

SITE PREPARATION

Treatment Unit	Season (yr.)	Method
A	5/90	Mechanical site preparation.

REFORESTATION

Target Reg. Date	Plant	Selected Species	Selected Stock Type	Selected Stems/ha
90	M91	Sx/PL	2+0 PSB	1100

SILVICULTURE PLAN

GENERAL COMMENTS

Brushing and weeding needs expected to be minor, but will be carried out to meet free-to - grow standards by chemical or manual means.

METHODS/TIMING — BRUSHING AND WEEDING

Streams within the block will require pesticide-free zones. These areas will be treated manually.

Free-growing trees will be of an acceptable species, at least 1.3 meters tall, and 150% taller than the brush species within a one meter radius of the trunk, measured at the base of the last leader.

GENERAL COMMENTS

GENERAL OBSERVATIONS

PROCESSING SUMMARY

Action	Initial	Date Completed D	M	Y
1. Entry History Record				
2				
3				
4				

☐ MAP/PHOTO ATTACHED

MAP SCALE :

AFFIX SEAL HERE

Signature of person completing this prescription

Signature of Operational Approval Licensee (and Owner if not)

ADMINISTRATION

FLETCHER CHALLENGE

PROJECT NO. 84/2

REPORT DATE 30 NOVEMBER 1988

PER HECTARE STAND AND STOCK TABLE

CUT BLOCK 05546

79.1 HECTARES

SPECIES	DBH CLASS	AVE HT.	NUMBER OF STEMS LIVE TREES RG #1	LIVE TREES RG #2	LIVE TREES RG #3	DEAD POTENTIAL	TOTAL	DEAD USELESS	GRAND TOTAL	SPECIAL REPORT	VOLUME - M3 AVE WHOLE STEM	MERCHANTABLE GROSS	MERCHANTABLE NET
BALSAM	10	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	186.0	0.00	0.00	0.00
	15	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	203.8	0.00	0.00	0.00
	20	17.1	42.3	19.8	0.0	4.7	67.0	11.9	78.9	0.0	0.22	13.20	9.65
	25	21.1	33.4	8.8	2.5	2.4	47.1	21.1	68.3	0.0	0.44	19.47	13.94
	30	23.3	26.5	31.9	0.0	0.0	58.4	10.7	69.1	0.0	0.66	36.43	25.55
	35	25.7	4.4	10.9	0.0	1.2	16.6	1.5	18.1	0.0	0.97	15.44	10.10
	40	27.4	3.2	7.5	0.0	0.0	12.7	0.1	12.8	0.0	1.35	16.54	11.19
	45	28.4	0.9	2.7	0.0	0.0	3.7	2.5	6.2	0.0	1.70	6.01	3.91
	50	31.1	0.0	2.1	0.0	0.0	2.1	0.8	2.9	0.0	2.37	4.87	3.02
	55	32.1	1.3	0.6	0.0	0.0	1.9	1.0	2.9	0.0	2.85	5.27	3.63
	60	34.1	0.0	0.0	0.0	0.5	0.5	0.0	0.5	0.0	3.61	1.86	0.71
	70	37.1	0.0	0.0	0.0	0.4	0.4	0.0	0.4	0.0	5.23	1.99	0.72
	TOTAL		114.3	84.5	2.5	9.3	210.5	49.6	260.1	203.8		121.09	82.42
		%	43.9	32.5	1.0	3.6		19.1	100.0				
SPRUCE	10	19.0	0.0	11.7	0.0	0.0	11.7	0.5	12.1	0.0	0.09	0.00	0.00
	15	20.1	11.0	48.4	0.0	0.0	59.4	8.4	67.8	0.0	0.14	6.02	5.73
	20	21.9	9.8	19.8	0.0	0.0	29.6	6.8	36.4	0.0	0.29	7.57	7.16
	25	23.7	22.6	26.8	0.0	2.3	51.7	11.6	63.3	0.0	0.48	22.80	20.86
	30	24.8	23.9	20.4	0.0	0.0	44.4	2.0	46.4	0.0	0.66	27.64	25.18
	35	26.7	8.8	13.3	0.0	0.0	22.1	1.4	23.4	0.0	0.97	20.52	18.20
	40	28.1	8.0	12.9	0.0	1.0	21.9	2.1	24.0	0.0	1.37	28.76	24.90
	45	30.3	6.6	6.5	0.0	0.0	13.1	0.0	13.1	0.0	1.79	22.52	19.88
	50	31.6	3.7	2.8	0.0	0.0	6.5	1.2	7.7	0.0	2.25	14.08	12.53
	55	33.6	1.1	0.5	0.0	0.0	1.6	0.0	1.6	0.0	2.89	4.43	3.98
	60	35.7	0.0	1.8	0.0	0.0	1.8	0.0	1.8	0.0	3.53	5.87	4.77
	65	35.1	0.8	0.4	0.0	0.0	1.2	0.0	1.2	0.0	4.00	4.81	4.31
	TOTAL		96.2	153.7	0.0	3.4	253.2	33.5	286.7	0.0		165.03	147.47
		%	33.6	53.6	0.0	1.2		11.7	100.0				
LODGEPOLE P.	10	12.9	0.0	0.8	0.0	1.4	2.1	16.1	18.2	0.0	0.04	0.00	0.00
	15	17.5	7.1	8.3	0.0	0.3	15.7	16.0	31.6	0.0	0.18	2.37	2.19
	20	19.3	0.9	23.4	0.0	0.5	24.8	4.4	29.2	0.0	0.27	5.99	5.25
	25	22.4	22.2	55.5	0.0	6.6	89.2	0.2	89.4	0.0	0.49	41.02	35.17
	30	24.5	9.1	56.2	0.0	1.8	67.2	2.5	69.6	0.0	0.74	46.73	39.27
	35	26.3	4.8	14.3	0.0	0.0	19.1	1.5	20.6	0.0	1.07	19.48	16.17
	40	26.8	1.3	5.4	0.0	1.0	7.7	1.1	8.8	0.0	1.41	10.30	7.74
	45	28.0	0.0	3.1	0.0	0.0	3.1	0.0	3.1	0.0	1.86	5.52	4.21
	50	29.4	0.0	0.6	0.0	0.0	0.6	0.0	0.6	0.0	2.40	1.40	1.00
	55	27.4	0.0	0.6	0.0	0.0	0.6	0.0	0.6	0.0	2.43	1.34	0.91
	TOTAL		50.4	167.4	0.0	10.2	228.0	25.2	253.2	0.0		134.26	111.91
		%	19.9	66.0	0.0	4.0		10.1	100.0				

BC FOREST PRODUCTS

PROJECT NO. 84/2

REPORT DATE 17 SEPTEMBER 87

PER HECTARE STAND AND STOCK TABLE

CUT BLOCK 05516

112.7 HECTARES

SPECIES	DBH CLASS	AVE HT.	NUMBER OF STEMS LIVE TREES RG #1	RG #2	RG #3	DEAD POTENTIAL	TOTAL	VOLUME - M3 DEAD USELESS	GRAND TOTAL	SPECIAL REPORT	AVE WHOLE STEM	MERCHANTABLE GROSS	MERCHANTABLE NET
BALSAM	10	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	295.0	0.00	0.00	0.00
	15	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	204.0	0.00	0.00	0.00
	20	15.7	76.2	49.9	5.0	4.2	135.8	23.1	158.9	0.0	0.20	22.75	16.82
	25	19.3	57.3	50.2	0.0	0.0	107.5	12.8	120.4	0.0	0.39	38.65	27.99
	30	21.8	33.1	26.0	0.0	2.4	61.6	4.6	66.2	0.0	0.62	30.35	21.06
	35	24.0	12.1	17.2	0.0	1.4	30.6	4.9	35.6	0.0	0.92	26.77	18.02
	40	26.4	3.6	10.4	0.0	1.3	15.3	4.0	19.3	0.0	1.34	19.68	12.66
	45	28.0	2.3	3.8	0.9	0.4	7.4	6.3	13.7	0.0	1.70	12.19	7.61
	50	29.6	3.1	1.9	0.0	0.1	5.0	3.8	8.8	0.0	2.23	11.02	7.51
	55	30.7	0.3	1.2	0.6	0.1	2.5	1.2	3.7	0.0	2.89	6.81	3.95
	60	31.4	0.0	0.5	0.0	0.0	1.0	0.6	1.6	0.0	3.22	3.09	2.05
	65	32.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.09	0.14	0.05
	70	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.55	0.14	0.08
	75	32.5	0.3	0.0	0.0	0.0	0.3	0.0	0.3	0.0	5.47	1.56	1.11
	TOTAL		179.1	181.1	7.0	10.0	357.2	61.3	420.5	204.0		173.37	118.94
		%	42.6	38.3	1.7	2.4		15.1	100.0				
SPRUCE	10	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	0.0	0.00	0.00	0.00
	15	16.5	3.5	18.5	0.0	0.0	22.0	0.0	22.0	0.0	0.12	1.85	1.76
	20	19.3	4.8	36.1	0.0	0.9	41.4	0.0	41.4	0.0	0.25	8.02	7.53
	25	22.3	1.9	14.8	0.0	1.8	18.5	1.2	19.7	0.0	0.37	8.75	6.10
	30	24.9	2.1	17.1	0.0	0.0	20.4	1.3	21.7	0.0	0.53	12.97	11.53
	35	27.4	1.0	10.6	0.0	1.5	13.0	1.3	14.3	0.0	0.68	10.75	14.63
	40	29.8	1.0	9.1	0.0	0.9	11.1	0.0	11.1	0.0	1.25	13.24	10.91
	45	32.1	0.0	5.1	0.0	0.0	5.1	0.0	5.1	0.0	1.65	11.46	9.67
	50	34.2	1.0	5.3	0.0	1.1	7.3	0.0	7.3	0.0	2.20	15.42	12.37
	55	36.0	1.1	3.0	0.0	0.6	4.1	0.0	4.1	0.0	2.75	10.99	8.99
	60	37.7	0.0	1.2	0.1	0.0	0.1	0.0	0.1	0.0	3.10	0.50	0.50
	65	39.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.66	2.82	2.54
	70	35.7	0.1	0.5	0.0	0.0	0.6	0.0	0.6	0.0	4.56	2.70	2.24
	75	37.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.89	1.84	1.53
	TOTAL		27.6	124.8	0.1	6.5	159.2	11.4	170.6	0.0		111.54	95.51
		%	16.3	73.1	0.1	3.8		6.7	100.0				
LODGEPOLE P.	10	18.2	0.0	3.7	0.0	0.5	4.3	16.4	19.8	0.0	0.00	0.69	0.59
	15	19.7	0.0	7.9	0.0	2.4	10.3	13.1	23.4	0.0	0.33	3.08	2.46
	20	20.8	0.4	24.3	0.0	0.0	26.7	0.5	27.3	0.0	0.46	11.48	9.99
	25	22.3	0.4	16.6	0.0	6.1	34.7	1.3	36.0	0.0	0.68	22.05	18.04
	30	23.9	0.3	17.7	0.0	0.0	18.0	0.8	18.8	0.0	1.00	17.07	14.03
	35	25.5	0.3	13.5	0.0	0.3	14.0	0.6	14.6	0.0	1.35	18.01	14.21
	40	26.4	0.0	1.8	0.0	0.6	2.5	0.0	2.5	0.0	1.64	3.67	2.36
	45	28.3	0.0	1.4	0.0	0.0	1.4	0.0	1.4	0.0	2.24	2.72	2.07
	TOTAL		8.3	90.6	0.0	6.9	111.7	33.4	145.1	0.0		78.99	63.78
		%	5.7	66.0	0.0	4.7		23.0	100.0				

Reed Collar